IN THE CLAIMS

Please (i) cancel claim 22 without prejudice and subject to Applicants' right to prosecute all canceled subject matter in related applications, and (ii) amend claims 1, 3-8, 12-16, 18-20, 23 and 24 so that the claims hereafter read as follows:

1. (Currently Amended) A fiber optic communication system, comprising:

a first optical discriminator positioned to convert a first ~~partially~~ frequency-modulated signal of wavelength λ_1 into a first ~~substantially~~ amplitude-modulated signal and to reflect a multiplicity of multiplexed signals with wavelengths $\lambda_2, \ldots, \lambda_n$, which are different from λ_1, so that the first ~~substantially~~ amplitude-modulated signal of wavelength λ_1 and the multiplicity of multiplexed wavelengths $\lambda_2, \ldots, \lambda_n$ are made to propagate in substantially the same direction to form a wavelength multiplexed signal with wavelengths λ_1, $\lambda_2, \ldots, \lambda_n$.

2. (Original) The system according to claim 1, in which the multiplexed signals with wavelengths $\lambda_1, \ldots, \lambda_n$, are generated by another multiplicity of fiber optic system.

3. (Currently Amended) The system according to claim 1, where the optical discriminator is adapted to reflect a portion of the first ~~partially~~ frequency-modulated signal to produce a reflected signal that is used to wavelength lock the first ~~partially~~ frequency-modulated signal.

4. (Currently Amended) The system according to claim 3, further including a wavelength locking circuit adapted to wavelength lock the first ~~partially~~ frequency-modulated signal by comparing a first optical power of the first ~~partially~~ frequency-modulated signal to a second optical power of the reflected signal and then adjusting the first ~~partially~~ frequency-modulated signal to keep the ratio of the first ~~partially~~ frequency-modulated signal to the reflected signal substantially constant.

5. (Currently Amended) The system according to claim 1, where the first optical discriminator compensates for a fraction of the ~~partially compensates for~~ dispersion in a transmission cable.

6. (Currently Amended) The system according to claim 1, further including a laser source to provide the first ~~partially~~ frequency-modulated signal of wavelength λ_1, and an optical isolator between the laser source and the first optical discriminator.

7. (Currently Amended) The system according to claim 1, wherein the first optical discriminator~~s are each~~ is a coupled multicavity filter~~s~~.

8. (Currently Amended) The system according to claim 1, wherein the first optical discriminator~~s are each~~ is formed from a stack of thin materials having different dielectric constants.

9. (Original) The system according to claim 1, where the modulating signal is non-return to zero.

10. (Original) The system according to claim 1, where the modulating signal is return to zero.

11. (Original) The system according to claim 1, where the modulating signal is sinusoidal RF signal.

12. (Currently Amended) A fiber optic communication system, comprising:

a first optical discriminator adapted to convert a first ~~partially~~ frequency_modulated signal into a first ~~substantially~~ amplitude_modulated signal;

a second optical discriminator adapted to convert a second ~~partially~~ frequency_modulated signal into a second ~~substantially~~ amplitude_modulated signal and to reflect the first ~~substantially~~ amplitude_modulated signal so that the first ~~substantially~~ amplitude_modulated signal and the second ~~substantially~~ amplitude_modulated signal are substantially in the same direction to form a first wavelength multiplexed signal.

13. (Currently Amended) The system according to claim 12, further including a first wavelength locking circuit adapted to wavelength lock the first ~~partially~~ frequency_modulated signal by comparing a first optical power against a second optical power of the reflected signal of the first ~~partially~~ frequency_modulated signal and then adjusting the first ~~partially~~ frequency_modulated signal to keep the ratio of

the ~~partially~~ frequency-modulated signal to the reflected signal substantially constant.

14. (Currently Amended) The system according to claim 13, further including:

a third optical discriminator adapted to convert a third ~~partially~~ frequency-modulated signal into a third ~~substantially~~ amplitude-modulated signal and to reflect the first wavelength multiplexed signal so that the third ~~substantially~~ amplitude-modulated signal and the first wavelength multiplexed signal are substantially in the same direction to form a second wavelength multiplexed signal.

15. (Currently Amended) The system of claim 14, where the third optical discriminator is adapted to reflect a portion of the third ~~partially~~ frequency-modulated signal to produce a third reflected signal which is used to wavelength lock the third ~~partially~~ frequency-modulated signal.

16. (Currently Amended) The system according to claim 12, further including a laser source to provide the first ~~partially~~ frequency-modulated signal, and an optical isolator between the laser source and the first optical discriminator.

17. (Original) The system according to claim 16, where the laser source is a semiconductor laser diode.

18. (Currently Amended) A fiber optic system capable of multiplexing, the system comprising:

a first laser source capable of transmitting ~~a~~ the first ~~partially~~ frequency-modulated ~~(FM)~~ signal;

a first optical discriminator adapted to convert a first ~~partially FM~~ frequency-modulated laser signal into a first ~~substantially~~ amplitude-modulated ~~(AM)~~ signal;

a second laser source capable of transmitting a second ~~partially FM~~ frequency-modulated laser signal, where the wavelength of the first ~~partially FM~~ frequency-modulated is different from the wavelength of the second ~~partially FM~~ frequency-modulated laser signal; and

a second optical discriminator positioned relative to the first and second laser sources such that the optical discriminator converts the second ~~FM~~ frequency-modulated laser signal to a second ~~substantially AM~~ amplitude-modulated laser signal and reflects the first ~~substantially AM~~ amplitude-modulated laser signal so that the first and second ~~substantially AM~~ amplitude-modulated laser signals propagate in substantially the same direction to form a first wavelength multiplexed laser signal.

19. (Currently Amended) The system according to claim 18, further including a wavelength locking circuit adapted to wavelength lock the first ~~partially FM~~ frequency-modulated laser signal by comparing a first optical power of the first ~~partially FM~~ frequency-modulated laser signal to a second optical power of the reflected signal and then adjusting the first ~~partially FM~~ frequency-modulated laser signal to keep the ratio of the first ~~partially FM~~ frequency-modulated laser signal to the reflected signal substantially constant.

20. (Currently Amended) The system according to claim 19, where the first laser source is coupled to a laser cooler, if the second optical power of the reflected signal increases relative to the first optical power, then cooling the laser cooler to shift the wavelength of the first ~~substantially AM~~ amplitude-modulated laser signal to be shorter.

21. (Original) The system according to claim 19, where the first optical discriminator is coupled to a discriminator cooler to fix the temperature of the first optical discriminator to minimize wavelength drift.

22. (Cancelled)

23. (Currently Amended) A method for multiplexing at least two signals, the method comprising:

converting a first ~~partially~~ frequency-modulated ~~(FM)~~ laser signal to a first ~~substantially~~ amplitude-modulated ~~(AM)~~ laser signal; and

reflecting the first ~~substantially AM~~ amplitude-modulated laser signal in substantially the same direction as multiplexed laser signals with different wavelengths as the wavelength of the first ~~substantially AM~~ amplitude-modulated laser signal.

24. (Currently Amended) The method according to claim 23, further including:

cooling the first ~~substantially AM~~ amplitude-modulated laser signal to shorten its wavelength to decrease the power of the laser from the step of reflecting.